CONTENTS TO VOLUME 42

*Vol. 42 No. 1 July 1988*


VLADIMIR PLETSER / Exponential Distance Relations in Planetary-Like Systems Generated at Random 1

C. J. BANOS and B. PETROPOULOS / Physical Parameters of the Jovian Atmosphere 19

BASIL PETROPOULOS / Physical Parameters of the Atmosphere of Venus 29

A. A. JACKSON and R. M. KILLEN / Infrared Brightness of a Comet Belt Beyond Neptune 41

M. BURŠA / Principal Moments of Inertia and Secular Love Number of Phobos 49

S. PITERI / Mapping with the Use of Strip Photography 55

E. PERDIOS, A. TSOUROPLIS, and C. ZAGOURAS / The Stability Parameters of Three-Body Periodic Orbits 61

AMITABHA GHOSH / Transfer of Solar Angular Momentum by Inertial Induction 69

ABDEL AZIZ BAKRY / Third-Order Uranus-Neptune Theory. Part III: Determination of New Hamiltonian and Determining Function 77

Letters to the Editor

SIEGRIED FRANCK and INGO ORGZALL / Global Martian Surface Structure and Planetary Evolution 107

P. S. GORAYA and B. B. SANWAL and B. S. RAUTELA / Extension of the Coma of P/Halley 113


*Vol. 42 No. 2 August 1988*


MOHAMED ADEL SHARAF / Expansion Theory for the Elliptic Motion of Arbitrary Eccentricity and Semi-Major Axis 115

D. L. BINDSCHADLER and J. W. HEAD / Diffuse Scattering of Radar on the Surface of Venus: Origin and Implications for the Distribution of Soils 133

YIANNIS LIRITZIS / Aurorae Boreales and Geomagnetic Inclinations as Aids to Archaeomagnetic Dating 151

RAM KRISHAN SHARMA and M. X. JAMES RAJ / Long-Term Orbit Computations with KS Uniformly Regular Canonical Elements with Oblateness 163

C. Z. ZHANG and M. SHEN / The Lunar Mean Moment of Inertia and the Size of the Moon's Core 179

MARTIN BEECH / Non-Linear Meteor Trails 185

Letter to the Editor

G. P. HOREDT / A New Variant of the Large-Impact Hypothesis for the Origin of the Moon 201

Book Review

M. Fulchignoni and L. Kresák (eds.), *The Evolution of the Small Bodies of the Solar System: Proceedings of the International School of Physics 'Enrico Fermi''* 207

*Vol. 42 No. 3 September 1988*

WILLIAM D. ROSS / Ringlets of the Major Planets which May Consist of Coagulated Particles 209

OSMAN M. KAMEL / On the Expansion of Planetary Disturbing Function Part I: Outline 221

M. BURŠA / Tidal Variations in the Dynamical Parameters of Phobos 227

H. MAVROMICHALAKI, E. MARMATSOURI, and A. VASSILAKI / Solar-Cycle Phenomena in Cosmic-Ray Intensity: Differences Between Even and Odd Cycles 233

A. TYRIE / Age Dating of Mare in the Lunar Crater Tsiolkovsky by Crater-Counting Method 245

A. TYRIE / A Description of the Crater Tsiolkovsky on the Lunar Far Side 265

JOUKO RAITALA / Composite Graben Tectonics of Alba Patera on Mars 277

KENT D. TREGO / A Comparison of the Cratered Terrain Escarpments on Miranda with the Thrust Faults on Mercury 293

VLADAN ČELEBONOVIČ / The Composition of Ceres: A Determination by High Pressure Physics 297

Letters to the Editor

S. YABUSHITA, K. WADA, H. MORIYAMA, and K. TAKEUCHI / A Neutron Activation Analysis of Iridium Concentration in Yamato Carbonaceous Chondrite 301

JORMA J. RIIHIMAA / Broadband Lane Structures in the Decametric Spectra of Jupiter and the Scintillation Boundary 303

Book Reviews

M. U. Sagitov, B. Bodri, V. S. Nazarenko, and Kh. G. Tadzhidinov, *Lunar Gravimetry* (M. BURŠA) 309

Ronald Greeley and James D. Iversen, *Wind as a Geological Process on Earth, Mars, Venus and Titan* (MILAN BURŠA) 311

**FREE Sample Copies Available On Request**

# PLANETARY AND SPACE SCIENCE

Editor-in-Chief: **Sir DAVID BATES**, *Department of Applied Mathematics and Theoretical Physics, The Queen's University, Belfast BT7 1NN, Northern Ireland, UK*

*Planetary and Space Science* publishes original contributions in the following areas: planetary and terrestrial atmospheres; atomic processes; radio and visual aurora; comets; cosmic rays; geomagnetic fields; geogravitational potential; magneto-ionic theory; meteors; the moon; radiation belts; solar; corpuscular and electromagnetic radiation; solar wind; zodiacal light; interplanetary magnetic fields and the ionosphere.

## A Selection of Papers

Numerical modelling of scintillation variations from interplanetary disturbances, **S J TAPPIN** (UK).
Distant (200-238 $R_e$ ) magnetotail lobe characteristics during quiet solar wind conditions, **B T TSURUTANI** (USA) *et al.*
Statistical properties of magnetic field fluctuations in the distant plasmasheet, **B T TSURUTANI** (USA) *et al.*
Scattering of electromagnetic waves by electron acoustic waves, **M Y YU** (FRG) *et al.*
Comparison of ion structures in comets Halley and Giacobini-Zinner, **D REES** (UK) *et al.*
"Serpentine emission" at the high latitude Antarctic station, Davis, **R J MORRIS** (Australia) & **K D COLE** (Australia).
Geomagnetic response to magnetic clouds, **R M WILSON** (USA).
A new method of measuring the ion-neutral collision frequency using incoherent scatter radar, **T NYGREN** (Finland) *et al.*
On the turbulent heating and the threshold condition in the critical ionization velocity interaction, **E MÖBIUS** (FRG) *et al.*
Simulations of auroral plasma processes: electric fields, waves and particles, **N SINGH** (USA) *et al.*
Transient field-aligned electric fields inside the plasma sheet inferred from measurements of energetic particles, **D V SAR AFOPOULOS** (Greece) & **E T SARRIS** (Greece).
Latitudinal structures of discrete arcs resulting from viscous interaction between sheared plasma flows, **T YAMAMOTO** (Japan) & **N HORI** (Japan).

**Indexed/Abstracted in:** *Current Contents, Chemical Abstracts, INSPEC, PASCAL-CNRS Database, World Aviation Directory*

## Subscription Information

1988: Volume 36 (12 issues)
Annual subscription (1988) **DM 1280.00**
Two-year rate (1988/89) **DM 2432.00**
ISSN: 0032-0633

Advertising rate card available on request. Back issues and current subscriptions are also available in microform. The German Mark (DM) prices shown include postage and insurance, and apply in Europe, Africa, Asia/Australasia (with the exception of Japan). For the rest of the world including Japan apply to the nearest Pergamon office. Prices are subject to change without notice.

PERGAMON PRESS 1948–1988

PERGAMON PRESS

Headington Hill Hall, Oxford OX3 0BW, UK Fairview Park, Elmsford, New York10523, USA

6A/8/4/87

# Particle Acceleration and Trapping in Solar Flares

**Selected Contributions to the Workshop held at Aubigny-sur-Nère (Bourges), France, June 23–26, 1986**

edited by
Dr G. TROTTET and Dr M. PICK

1987, 240 pp.
Hardbound Dfl. 130.00/£40.25/US$64.00
D. Reidel Publishing Company

ISBN 90–277–2609–4

The six invited reviews and fifteen selected contributions presented in this volume give a complete picture of the latest developments in research on particle acceleration and trapping in solar flares. The main topics covered are: acceleration processes, particle storage, emission processes, radio pulsations, cyclotron maser spikes, and hard X-ray bursts.

**Kluwer academic publishers group**

P.O. Box 989
3300 AZ Dordrecht
The Netherlands

101 Philip Drive
Norwell,
MA 02061, U.S.A.

Falcon House
Queen Square
Lancaster, LA1 1RN, U.K.